
Sequence Listing was accepted.

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Reviewer: Keisha Douglas

Timestamp: [year=2009; month=1; day=5; hr=16; min=19; sec=49; ms=26;]

Validated By CRFValidator v 1.0.3

Application No: 10620787 Version No: 3.0

Input Set:

Output Set:

Started: 2008-12-18 20:35:11.391 **Finished:** 2008-12-18 20:35:16.523

Elapsed: 0 hr(s) 0 min(s) 5 sec(s) 132 ms

Total Warnings: 8
Total Errors: 0

No. of SeqIDs Defined: 34

Actual SeqID Count: 34

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| Arg Il | e Ser Ser 20 | Lys Leu | Glu Gln | Glu Ala | a Asn A | Ala Ser | Ala Glr | 1 Thr |
| Lys Cy | s Asp Ile 35 | Glu Ile | Gly Asn 40 | Phe Ty | r Ile A | Arg Gln 45 | Asn His | Gly |
| Cys As 50 | n Leu Thr | Val Lys | Asn Met 55 | Cys Sei | | Asp Ala 60 | Asp Ala | ı Gln |
| Leu As | p Ala Val | Leu Ser 70 | Ala Ala | Thr Glu | 1 Thr 7 | Tyr Ser | Gly Leu | Thr |
| Pro Gl | u Gln Lys | Ala Tyr 85 | Val Pro | Ala Met 90 | Phe I | Thr Ala | Ala Leu 95 | ı Asn |
| Ile Gl | n Thr Ser | Val Asn | Thr Val | Val Arg | g Asp E | Phe Glu | Asn Tyr | . Val |

Lys Gln Thr Cys Asn Ser Ser Ala Val Val Asp Asn Lys Leu Lys Ile 115 120 125 Gln Asn Val Ile Ile Asp Glu Cys Tyr Gly Ala Pro Gly Ser Pro Thr 130 135 140 Asn Leu Glu Phe Ile Asn Thr Gly Ser Ser Lys Gly Asn Cys Ala Ile 145 150 155 160 Lys Ala Leu Met Gln Leu Thr Thr Lys Ala Thr Thr Gln Ile Ala Pro 165 170 175 Lys Gln Val Ala Gly Thr Gly Val Gln Phe Tyr Met Ile Val Ile Gly 180 185 190 Val Ile Ile Leu Ala Ala Leu Phe Met Tyr Tyr Ala Lys Arg Met Leu 195 200 205 Phe Thr Ser Thr Asn Asp Lys Ile Lys Leu Ile Leu Ala Asn Lys Glu 210 215 220 Asn Val His Trp Thr Thr Tyr Met Asp Thr Phe Phe Arg Thr Ser Pro 225 230 235 240 Met Val Ile Ala Thr Thr Asp Met Gln Asn 245 250 <210> 2 <211> 250 <212> PRT <213> Vaccinia virus <400> 2 Met Gly Ala Ala Ser Ile Gln Thr Thr Val Asn Thr Leu Ser Glu 10 15 Arg Ile Ser Ser Lys Leu Glu Glu Glu Ala Asn Ala Ser Ala Gln Thr 20 25 30

35 40 45

Lys Cys Asp Ile Glu Ile Gly Asn Phe Tyr Ile Arg Gln Asn His Gly

Cys Asn Leu Thr Val Lys Asn Met Cys Ser Ala Asp Ala Asp Ala Gln 50 55 60

Leu Asp Ala Val Leu Ser Ala Ala Thr Glu Thr Tyr Ser Gly Leu Thr 65 70 Pro Glu Gln Lys Ala Tyr Val Pro Ala Met Phe Thr Ala Ala Leu Asn 85 90 Ile Gln Thr Ser Val Asn Thr Val Val Arg Asp Phe Glu Asn Tyr Val 100 105 110 Lys Gln Thr Cys Asn Ser Ser Ala Val Val Asp Asn Lys Leu Lys Ile 115 120 125 Gln Asn Val Ile Ile Asp Glu Cys Tyr Gly Ala Pro Gly Ser Pro Thr 130 135 140 Asn Leu Glu Phe Ile Asn Thr Gly Ser Ser Lys Gly Asn Cys Ala Ile 145 150 155 Lys Ala Leu Met Gln Leu Thr Thr Lys Ala Thr Thr Gln Ile Ala Pro 165 170 175 Arg Gln Val Ala Gly Thr Gly Val Gln Phe Tyr Met Ile Val Ile Gly 180 185 190 Val Ile Ile Leu Ala Ala Leu Phe Met Tyr Tyr Ala Lys Arg Met Leu 195 200 205 Phe Thr Ser Thr Asn Asp Lys Ile Lys Leu Ile Leu Ala Asn Lys Glu 210 215 220 Asn Val His Trp Thr Thr Tyr Met Asp Thr Phe Phe Arg Thr Ser Pro 225 230 235 240

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<210> 3 <211> 250 <212> PRT <213> Variola virus

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| Lys Cys Asp I 35 | Ile Glu Ile | Gly Asn E | Phe Tyr Ile | Arg Gln 45 | Asn His | Gly |
| Cys Asn Leu T 50 | Thr Val Lys | Asn Met (| Cys Ser Ala | Asp Ala 60 | Asp Ala | Gln |
| Leu Asp Ala V 65 | Val Leu Ser 70 | Ala Ala : | Thr Glu Thr 75 | Tyr Ser | Gly Leu | Thr 80 |
| Pro Glu Gln I | Lys Ala Tyr 85 | Val Pro A | Ala Met Phe 90 | Thr Ala | Ala Leu 95 | Asn |
| Ile Gln Thr S | Ser Val Asn 100 | | Val Arg Asp 105 | Phe Glu | Asn Tyr 110 | Val |
| Lys Gln Thr C | Cys Asn Ser | Ser Ala V | Val Val Asp | Asn Lys 125 | Leu Lys | Ile |
| Gln Asn Val I 130 | Ile Ile Asp | Glu Cys 7 | Tyr Gly Ala | Pro Gly 140 | Ser Pro | Thr |
| Asn Leu Glu P 145 | Phe Ile Asn 150 | Thr Gly S | Ser Ser Lys 155 | Gly Asn | Cys Ala | Ile 160 |
| Lys Ala Leu M | Met Gln Leu 165 | Thr Thr I | Lys Ala Thr 170 | Thr Gln | Ile Ala 175 | Pro |
| Arg Gln Val A | Ala Gly Thr | _ | Gln Phe Tyr 185 | Met Ile | Val Ile 190 | Gly |
| Val Ile Ile I 195 | Leu Ala Ala | Leu Phe N | Met Tyr Tyr | Ala Lys 205 | Arg Met | Leu |
| Phe Thr Ser T | Thr Asn Asp | Lys Ile 1 215 | Lys Leu Ile | Leu Ala 220 | Asn Lys | Glu |

Asn Val His Trp Thr Thr Tyr Met Asp Thr Phe Phe Arg Thr Ser Pro

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<211> 250

<212> PRT

<213> Variola virus

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Lys Cys Asp Ile Glu Ile Gly Asn Phe Tyr Ile Arg Gln Asn His Gly 35 40 45

Cys Asn Leu Thr Val Lys Asn Met Cys Ser Ala Asp Ala Asp Ala Gln 50 55 60

Leu Asp Ala Val Leu Ser Ala Ala Thr Glu Thr Tyr Ser Gly Leu Thr 65 70 75 80

Pro Glu Gln Lys Ala Tyr Val Pro Ala Met Phe Thr Ala Ala Leu Asn 85 90 95

Ile Gln Thr Ser Val Asn Thr Val Val Arg Asp Phe Glu Asn Tyr Val \$100\$

Lys Gln Thr Cys Asn Ser Ser Ala Val Val Asp Asn Lys Leu Lys Ile 115 120 125

Gln Asn Val Ile Ile Asp Glu Cys Tyr Gly Ala Pro Gly Ser Pro Thr 130 135 140

Lys Ala Leu Met Gln Leu Thr Thr Lys Ala Thr Thr Gln Ile Ala Pro\$165\$ \$170\$ \$175\$

Arg Gln Val Ala Gly Thr Gly Val Gln Phe Tyr Met Ile Val Ile Gly 180

Val Ile Ile Leu Ala Ala Leu Phe Met Tyr Tyr Ala Lys Arg Met Leu 195

Phe Thr Ser Thr Asn Asp Lys Ile Lys Leu Ile Leu Ala Asn Lys Glu 210

The Ser Thr Asn Asp Lys Ile Lys Leu Ile Leu Ala Asn Lys Glu 220

Asn Val His Trp Thr Thr Tyr Met Asp Thr Phe Phe Arg Thr Ser Pro 225 230 230 240

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Lys Cys Asp Ile Glu Ile Gly Asn Phe Tyr Ile Arg Gln Asn His Gly 35 40 45

Cys Asn Leu Thr Val Lys Asn Met Cys Ser Ala Asp Ala Asp Ala Gln 50 55 60

Leu Asp Ala Val Leu Ser Ala Ala Thr Glu Thr Tyr Ser Gly Leu Thr 65 70 75 80

Pro Glu Gln Lys Ala Tyr Val Pro Ala Met Phe Thr Ala Ala Leu Asn 85 90 95

Ile Gln Thr Ser Val Asn Thr Val Val Arg Asp Phe Glu Asn Tyr Val 100 105 110

Lys Gln Thr Cys Asn Ser Ser Ala Val Val Asp Asn Lys Leu Lys Ile 115 120 Gln Asn Val Ile Ile Asp Glu Cys Tyr Gly Ala Pro Gly Ser Pro Thr 130 135 140 Asn Leu Glu Phe Ile Asn Thr Gly Ser Ser Lys Gly Asn Cys Ala Ile 145 150 155 160 Lys Ala Leu Met Gln Leu Thr Thr Lys Ala Thr Thr Gln Ile Ala Pro 165 170 175 Arg Gln Val Ala Gly Thr Gly Val Gln Phe Tyr Met Ile Val Ile Gly 180 185 190 Val Ile Ile Leu Ala Ala Leu Phe Met Tyr Tyr Ala Lys Arg Met Leu 195 200 205 Phe Thr Ser Thr Asn Asp Lys Ile Lys Leu Ile Leu Ala Asn Lys Glu 210 215 220 Asn Val His Trp Thr Thr Tyr Met Asp Thr Phe Phe Arg Thr Ser Pro 230 235 225 Met Val Ile Ala Thr Thr Asp Met Gln Asn 245 250 <210> 6 <211> 110 <212> PRT <213> Vaccinia virus <400> 6 Met Asp Gly Thr Leu Phe Pro Gly Asp Asp Leu Ala Ile Pro Ala 10 1 5 Thr Glu Phe Phe Ser Thr Lys Ala Ala Lys Lys Pro Asp Arg Lys Arg 20 25 30

Glu Gln Ile Val Lys Ala Asp Glu Asp Asp Asn Glu Glu Thr Leu Lys

40 45

35

Gln Arg Leu Thr Asn Leu Glu Lys Lys Ile Thr Asn Val Thr Thr Lys 50 55 60 Phe Glu Gln Ile Glu Lys Cys Cys Lys Arg Asn Asp Glu Val Leu Phe 70 75 80 Arg Leu Glu Asn His Ala Glu Thr Leu Arg Ala Ala Met Ile Ser Leu 85 90 95 Ala Lys Lys Ile Asp Val Gln Thr Gly Arg Arg Pro Tyr Glu 100 105 110 <210> 7 <211> 110 <212> PRT <213> Vaccinia virus <400> 7 Met Asp Gly Thr Leu Phe Pro Gly Asp Asp Leu Ala Ile Pro Ala 5 10 15 Thr Glu Phe Phe Ser Thr Lys Ala Asp Lys Lys Pro Glu Ala Lys Arg 20 25 30 Glu Ala Ile Val Lys Ala Asp Glu Asp Asp Asn Glu Glu Thr Leu Lys 40 45 Gln Arg Leu Thr Asn Leu Glu Lys Lys Ile Thr Asn Val Thr Thr Lys 50 55 60 Phe Glu Gln Ile Glu Lys Cys Cys Lys Arg Asn Asp Glu Val Leu Phe 65 70 75 80 Arg Leu Glu Asn His Ala Glu Thr Leu Arg Ala Ala Met Ile Ser Leu

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Arg Leu Glu Asn His Ala Glu Thr Leu Arg Ala Ala Met Ile Ser Leu

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Glu Ala Ile Val Lys Ala Asp Gly Asp Asp Asn Glu Glu Thr Leu Lys
35 40 45

Gln Arg Leu Thr Asn Leu Glu Lys Lys Ile Thr Asn Val Thr Thr Lys
50 55 60

Phe Glu Gln Ile Glu Lys Cys Cys Lys Arg Asn Asp Asp Val Leu Phe 65 70 75 80

Arg Leu Glu Asn His Ala Glu Thr Leu Arg Ala Ala Met Ile Ser Leu 85 90 95

Ala Lys Lys Ile Asp Val Gln Thr Gly Arg Arg Pro Tyr Glu 100 105 110

<210> 11

<211> 185

<212> PRT

<213> Vaccinia virus

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Thr Val Tyr Gly Asp Lys Ile Gln Gly Lys Asn Lys Arg Lys Arg Val

20 25 30

Ile Gly Leu Cys Ile Arg Ile Ser Met Val Ile Ser Leu Leu Ser Met 35 40 45

Ile Thr Met Ser Ala Phe Leu Ile Val Arg Leu Asn Gln Cys Met Ser 50 55 60

Ala Asn Glu Ala Ala Ile Thr Asp Ala Ala Val Ala Val Ala Ala Ala 65 70 75 80

Ser Ser Thr His Arg Lys Val Ala Ser Ser Thr Thr Gln Tyr Asp His \$85\$ 90 95

Lys Glu Ser Cys Asn Gly Leu Tyr Tyr Gln Gly Ser Cys Tyr Ile Leu 100 105 110

His Ser Asp Tyr Gln Leu Phe Ser Asp Ala Lys Ala Asn Cys Thr Ala 115 120 125

Glu Ser Ser Thr Leu Pro Asn Lys Ser Asp Val Leu Ile Thr Trp Leu 130 135 140